Claims:

1. A method for determining jitter buffer size in a voice over packet communications system, comprising:

   a) comparing the RTP timestamps of two consecutive packets;

   b) determining the expected arrival time for the next packet based on said step of comparing;

   c) determining network jitter by comparing the expected arrival time for the next packet with the actual arrival time for the next packet; and

   d) calculating jitter buffer size based on the determined network jitter.

2. A method according to claim 1, wherein:

   said step of determining the expected arrival time includes comparing the difference between the local clock and the timestamp of the present packet and summing it with the timestamp difference of the last two packets.

3. A method according to claim 1, further comprising:

   e) repeating steps a) through c);

   f) determining the average network jitter; and

   g) recalculating jitter buffer size based on the determined average network jitter.

4. A method according to claim 1, wherein:

said step of calculating jitter buffer size includes calculating the formula BS=C+S/2+2J where BS is the jitter buffer size, C is the minimum size of a buffer in a zero jitter network, S is the size of the packets, and J is the network jitter.

5. A method according to claim 3, wherein:

said step of recalculating jitter buffer size includes calculating the formula BS=C+S/2+2J where BS is the jitter buffer size, C is the minimum size of a buffer in a zero jitter network, S is the size of the packets, and J is the average network jitter.

6. A method for adjusting jitter buffer size in a voice over packet communications system, comprising:

a) comparing the RTP timestamps of two consecutive packets;

b) determining the expected arrival time for the next packet based on said step of comparing;

c) determining network jitter by comparing the expected arrival time for the next packet with the actual arrival time for the next packet;

d) calculating jitter buffer size based on the determined network jitter; and

e) adjusting the size of the jitter buffer to the calculated jitter buffer size.

7. A method according to claim 6, wherein:

said step of determining the expected arrival time includes comparing the difference between the local clock and the timestamp of the present packet and summing it with the timestamp difference of the last two packets.

8. A method according to claim 6, further comprising:

f) repeating steps a) through c)];

g) determining the average network jitter;

h) recalculating jitter buffer size based on the determined average network jitter; and

i) readjusting the size of the jitter buffer to the recalculated jitter buffer size.

9. A method according to claim 8, wherein:

if network jitter determined in step c) is approximately one packet length or more, it is not included in the average determined at step g).

10. A method according to claim 8, wherein:

step i) is not performed if the buffer size found in step h) is less than 8 ms different from the buffer size determined in step d)

11. A method according to claim 6, wherein:

said step of calculating jitter buffer size includes calculating the formula BS=C+S/2+2J where BS is the jitter buffer size, C is the minimum size of a buffer in a zero jitter network, S is the size of the packets, and J is the network jitter.

12. A method according to claim 8, wherein:

said step of recalculating jitter buffer size includes calculating the formula BS=C+S/2+2J where BS is the jitter buffer size, C is the minimum size of a buffer in a zero jitter network, S is the size of the packets, and J is the average network jitter.

13. An apparatus for determining jitter buffer size in a voice over packet communications system, comprising:

a) first comparison means for comparing the RTP timestamps of two consecutive packets;

b) first determining means coupled to said first comparison means for determining the expected arrival time for the next packet;

c) second comparison means coupled to said first determining means for comparing the expected arrival time for the next packet with the actual arrival time for the next packet; and

d) calculating means coupled to said second comparison means for calculating jitter buffer size.

14. An apparatus according to claim 13, wherein:

said first determining means includes means for comparing the difference between the local clock and the timestamp of the present packet and summing it with the timestamp difference of the last two packets.

15. An apparatus according to claim 13, further comprising:

e) averaging means coupled to said second comparison means for determining the average network jitter, wherein

said calculating means includes recalculating means for recalculating jitter buffer size based on the average network jitter.

16. An apparatus according to claim 13, wherein:

said calculating means includes means for calculating the formula $BS=C+S/2+2J$ where BS is the jitter buffer size, C is the minimum size of a buffer in a zero jitter network, S is the size of the packets, and J is the network jitter.

17. An apparatus according to claim 15, wherein:

said recalculating means includes means for calculating the formula $BS=C+S/2+2J$ where BS is the jitter buffer size, C is the minimum size of a buffer in a zero jitter network, S is the size of the packets, and J is the average network jitter.

18. An apparatus for adjusting jitter buffer size in a voice over packet communications system, comprising:

a) first comparison means for comparing the RTP timestamps of two consecutive packets;

b) first determining means coupled to said first comparison means for determining the expected arrival time for the next packet;

c) second comparison means coupled to said first determining means for comparing the expected arrival time for the next packet with the actual arrival time for the next packet;

d) calculating means coupled to said second comparison means for calculating jitter buffer size; and

e) adjusting means coupled to said calculating means for adjusting the size of the jitter buffer.

19. An apparatus according to claim 18, wherein:

said first determining means includes means for comparing the difference between the local clock and the timestamp of the present packet and summing it with the timestamp difference of the last two packets.

20. An apparatus according to claim 18, further comprising:

f) averaging means coupled to said second comparison means for determining the average network jitter, wherein

said calculating means includes recalculating means for recalculating jitter buffer size based on the average network jitter, and

said adjusting means includes means for readjusting the size of the jitter buffer.

21. An apparatus according to claim 20, wherein:

said averaging means excludes differences of one packet size or more in calculating averages.

22. An apparatus according to claim 20, wherein:

said means for readjusting does not readjust the size of the jitter buffer is said recalculating means recalculates a buffer size which differes less than 8ms from the present buffer size.

23. An apparatus according to claim 18, wherein:

said calculating means includes means for calculating the formula $BS=C+S/2+2J$ where BS is the jitter buffer size, C is the minimum size of a buffer in a zero jitter network, S is the size of the packets, and J is the network jitter.

24.   An apparatus according to claim 20, wherein:

said recalculating means includes means for calculating the formula $BS = C + S/2 + 2J$ where BS is the jitter buffer size, C is the minimum size of a buffer in a zero jitter network, S is the size of the packets, and J is the average network jitter.